CENTER FOR ARMY LESSONS LEARNED (CALL)

News from the Front!

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IN THIS ISSUE!

BUILDING CONFIDENCE IS *NOT* A  JOB!

by SGT Sammy Villela, B Company, 311th MI Bn, 101st ABN DIV (AA)

It is still dark as three soldiers wearing complete LBE, Kevlar, and carrying PVS-7s, M16A2s and 9-mm pistols walk up to the Infantry Brigade Headquarters. They are not infantrymen, however; they are not strangers to the Brigade. As they enter the double doors of the headquarters, a slim, leather-faced SFC with a 101st combat patch halts them at the door and asks to see their ID cards. After the standard security procedure, they are on their way down the hall to the Brigade S2's office. As they enter the busy office, a young Captain turns and faces the team, smiles, and extends an open hand to the familiar Team Leader. Familiar because of the rapport built through constant liaison and coordination visits both in the field and in garrison. Familiar because of the many exercises, deployments and Emergency Deployment Readiness Exercises. Also familiar, because this team is the Division Ready Force (DRF) 1 team of the MI Company.

What? An MI Company with a DRF 1 team! *Yes, that's correct!* A team made up of two counterintelligence agents and one interrogator. However, this is not all the MI Company has to offer. Making up DRFs 2 and 3 are also Ground Surveillance System (GSS) Teams, Low-Level Voice Intercept (LLVI) Teams, a Transcription and Analysis (TA) Cell, and a TLQ-17 for jamming enemy communications. We must not forget the headquarters element, consisting of a RETRANS team, an NBC NCO, the supply element, and a team of Intelligence Analysts making up the Analysis and Control Team or, ACT. This is a new concept in fusing indicator analysis on the modern day battlefield, and constructing a product predicting what the enemy may do next. This is quite an array of intelligence systems. These systems are very effective when used properly. But how do they successfully begin to support a Brigade Task Force?

TECHNIQUES AND PROCEDURES

To begin, it is the MI Company's responsibility to be pro-active in “selling” its collection assets to the Brigade. If you notice, all collection assets are organized in teams. These team leaders range in ranks from Specialists to Sergeants. The entire success of the MI Company in supporting a combat infantry brigade task force depends on the abilities of young, tough, decisive, and capable team leaders with initiative and an unmatched “can-do” attitude.

Let's take the TLQ-17 team leader. The team leader trains soldiers on all aspects of that system, to include vehicle and equipment maintenance and battle drills. The soldiers’ subordinate to the team leader must be able to step up and successfully perform in the team leader's place, should that team leader be incapable of performing.

The CI team leader must coordinate for safe passage through another unit's AO when his team's on their way to a Traffic Control Point (TCP), or just conducting battlefield circulation. This coordination includes obtaining call signs and net identification numbers of units, allowing the CI team the ability to call for assistance, should they need it.

The LLVI and GSS team leaders must be proficient enough to look at a map, accomplish terrain analysis and chose a site that will allow their teams to be most effective. The leaders must plan a route that is both fast and safe. In addition, all of the team leaders and their teams must be tactically proficient to the point where their battle drills are at the same standards, if not higher, of an infantry team. They must be able to successfully, with a violence of fire so fierce, break contact when ambushed or stumbled upon by enemy forces. These leaders are in charge of extremely important, sensitive, and “high-vis” collection operations. Therefore, it is imperative that the team leaders be highly technically and tactically proficient. They are the leaders that are “selling” the collection asset. They are the ones that show up at mission planning briefs and OPORD briefs to coordinate the use of their personnel and equipment, frequently, in conjunction with numerous officers and senior NCOs. This takes a team leader that is willing to demand answers from CPTs and LTs in order to ensure that he can accomplish the mission and maintain the highest possible level of safety for his soldiers. They must be assertive and smart in making recommendations to the Brigade or Battalion S2, who is to determine their final course(s) of action on the battlefield. They must instill a sense of confidence in the S2. A sense that they can be trusted. Trusted to conduct an operation that could save hundreds of American lives. A sense that they are mature, capable, technical experts in their field. The S2 must know that no one person knows that system better than the team leader. The S2 should definitely take the team leader's recommendations. That is why briefing skills are so important to a team leader. He must have good communication skills to relay issues to others. Issues that could affect his life, and that of his men.

Therefore, the first sergeant, along with his platoon sergeants, should ensure that his team leaders are doing the right thing by conducting tough, and mentally challenging PT, soldiering the way they should and paying attention to detail. The teams must meet standards and surpass them. MI units must soldier the way they are going to fight, as small, three- to five-man teams. The commander must allot sufficient time for training to be properly executed. The teams must have training time to build team cohesiveness.

However, the commander and the team leaders must remember that not all good ideas come from SGTs and above, and better alternatives may present themselves while discussing orders with junior members of the team. Further, the better informed the soldier is, the less likely he is to engage in the speculation and interpretation processes that can cause orders to be misconstrued or lead to rumors. Commanders must realize a critical item concerning these tactically proficient MI soldiers. As the Army continues to draw down, those who remain have to meet tougher requirements than ever before. This means that on average, today's soldier will be much more educated than soldiers of the past. With this general increase in intelligence, there may be a greater "questioning" of orders. These soldiers will not want to know simply what to do, but they will want to know the "why" behind the orders. The presentation of questions forms the knowledge base for MI teams to construct their operational activities. Cohesion is also an important part of the MI Company's support to an Infantry Brigade. The infantry soldiers must also have confidence in the team leaders, their teams, and their equipment. For it is these very same infantry soldiers who are going to provide security for the teams when it is time for operations. In return, it is the collection team's mission to support the unit and save lives with the intelligence they collect.

When the Brigade goes to the field, the MI Company should always accompany the Brigade. The MI Company also should educate the Brigade and everyone in the Brigade Task Force on the assets available in the MI Company. The MI Unit should show the PRD, Radar and Remotely Monitored Battlefield Sensor System (REMBASS) systems during static displays. MI Personnel must explain exactly what they do and how they work and explain the value and importance of the TA cell. The CI/HUMINT team should also explain to the Brigade how TCPs, Counterintelligence Force Protection Source Operations and Population Resource Control Measures can greatly enhance the effectiveness and security of the combat forces.

To have crediblity with the infantry, the MI teams must work as the infantryman. In short, the MI Company must hump those rucks with the infantrymen, eat and socialize with them, and fight alongside them. **Take pride in your men and your equipment.** ***When the MI teams do good work,*** **give credit where credit is due.** ***In addition,*** **ensure the Brigade and Battalion staffs know the team leaders.** The MI Company is truly unique. Unique because of the quality of soldiers it must have. I am proud to have served in a company that challenged and conditioned my mind, body, and soul. A company of "Intelligent Barbarians" with a "can-do" attitude.✪

NIGHTHAWKS!

The Hill Drill: Low Cost, High Payoff Scout Training

By CPT Patrick L. Matthews, CO, P Troop, 4th Squadron, 3ACR

Bad information leads to bad decisions. This article presents an inexpensive training tool for combat leaders to train accurate reporting of enemy forces to aid the friendly force commander's tactical decisionmaking process -- for example, the dismounted cavalry scout precisely locating the enemy's forward security element in relationship to a decision point may trigger the commitment of precious assets (armored forces or AH-64s in the counterattack role). ***Accuracy of reporting is critical to successfully shaping the battle.***

Force XXI digitization attempts to answer three age-old questions: ***"Where am I? Where are my Buddies? Where is the Enemy?"*** Imbedded and portable global position receivers and laser rangefinders on both present and future combat vehicles are much-welcomed aids to solving this timeless puzzle. Coupled with downlinks from national intelligence assets, such as JSTARS, precise location of friendly and enemy forces down to the team and individual soldier level is cresting the horizon. Some hail these incredible advances as a panacea; others label them as a Pandora's Box. The Pentagon acknowledges the reality of strategic-level Information Warfare and anti-satellite operations. Translate this to the tactical level. The scout living in the Information Age must be able to ***both*** use the high-tech systems of the 21st Century as well as retain mastery of the low-tech unaided map and compass skills that will keep him and his buddies alive. For the low cost of some HMWWV OPTEMPO mileage, "The Hill Drill" can refine distance estimation and precision location of a target so that friendly forces can rapidly develop the tactical situation.

When my air cavalry troop conducted this training, the mission was simple: train the aeroscout and aero-weapons pilots to accurately estimate the distance of an M998 HMWWV without the aid of electronic devices (Figure 1). The concept of the operation was to concurrently train the enlisted soldiers on navigating the HMWWV to a specified six-digit grid using only a map and a compass (Figure 2) and then submitting a tactical report over a SINCGARS radio when reaching their checkpoint; their HMWWV then became the "target" for the pilots to pinpoint on the map and engage with notional indirect fires.

To conduct "eyeball calibration," the pilots were given their exact location on top of a hill that overlooked the main post as well as a road to the small arms ranges. The HMWWV started out 4 km away, traveled down the range road toward the pilots (like an advancing enemy force) and stopped at 1-km intervals. Army aviators undergo annual flight evaluations where they must demonstrate a working knowledge of distance estimation techniques based on visual cues as described in **FM 1-301,** ***Aeromedical Training for Flight Personnel.*** This exercise was a practical application of the known size of an object to aid them in estimating its distance (see Figure 3 for size comparison of the M998 to common Threat vehicles). Field artillery observers are also trained to use visual cues based on the detail and texture of foliage near the target as well as meteorological and geographic considerations to accurately determine target distance (Figures 4 and 5).

After a mental picture was established for the target at known distances from the first OP, a pair of HMMWVs moved to locations throughout the local training area that were observable from a second OP which was close by and faced a different direction. Now the pilots were required to not only estimate range to the target, but also to use their compass and map to plot its grid and then conduct an audible call for fire on the target. Distances varied from 2,300 meters to 600 meters danger close (Figure 6). By the end of the training, each pilot accurately located the target and achieved "artillery" effects with one adjustment or less.

Distance estimation training should be conducted whenever combat forces are introduced into a new environment. At the NTC, the desert floor is extremely deceiving and objects can appear up to a few kilometers closer than they actually are. A premature call for indirect fire or a direct fire engagement that falls short of the target may have disastrous results. Even using a laser rangefinder or designator on a target that is out of weapons range is foolish in an age where Threat forces are employing laser detectors. Compromising your position or intentions can be prevented by unaided distance estimation techniques. A reliance on electronic equipment without a redundant backup is equally unwise. This simple drill pays big dividends to the commander in protecting his own forces while shaping the battlespace to destroy his enemy.✪

SOURCES:

Department of the Army. ***Aeromedical Training for Flight Personnel.*** **Field Manual 1-301.** Washington, D.C.: U.S. Government Printing Office, 29 May 1987.

Department of the Army. ***Tactics, Techniques and Procedures for Observed Fires.*** **Field Manual 6-30.** Washington, D.C.: U.S. Government Printing Office, 16 July 1991.

Department of the Army. ***The Soviet Army Troops Organization and Equipment.*** **Field Manual 100-2-3.** Washington, D.C.: U.S. Government Printing Office, 6 June 1991.

Sherman, Jason. ***"Infowar: What Kind of A Defense?"*** **Armed Forces Journal International.** August 1997: 28-33.

AIRCREW TRAINING

TASK: **DETERMINE DISTANCE AND LOCATION OF A TARGET AND ENGAGE WITH INDIRECT FIRES.**

CONDITIONS: **FROM A KNOWN POINT, AND GIVEN A FT CARSON 1:50,000-SCALE MAP, A LENSATIC COMPASS, A PROTRACTOR, AND BINOCULARS.**

STANDARDS:

1. **DETERMINE DISTANCE WITHIN 250 METERS**
2. **DETERMINE TARGET LOCATION WITHIN 400 METERS**
3. **TRANSMIT A SPOT REPORT**
4. **ADJUST INDIRECT FIRE WITHIN 50 METERS AND FIRE FOR EFFECT**
5. **SUBMIT BATTLE DAMAGE ASSESSMENT**

Figure 1

SERGEANT'S TIME TRAINING

TASK: NAVIGATE MOUNTED AS A TC.

CONDITIONS: GIVEN A FT CARSON 1:50,000-SCALE MAP, A LENSATIC COMPASS, A PROTRACTOR, A HMMWV AND A SIX-DIGIT GRID AS A DESTINATION.

STANDARDS: NAVIGATE TO A POINT ON A ROAD WITHIN 100 METERS; NAVIGATE TO A POINT OFF-ROAD WITHIN 150 METERS.

Figure 2

KNOWN SIZE OF OBJECTS

	LENGTH(m)	WIDTH (m)	HEIGHT (m)
M998 HMWWV	**4.57**	**2.16**	**1.75**
	COMPARED TO		
BRDM-2	**5.70**	**2.35**	**2.31**
BMP-2	**6.86**	**3.13**	**2.15**
T-72	**6.90**	**3.46**	**2.30**
T-80	**7.20**	**3.46**	**2.30**

SOURCE: FM 100-2-3, *THE SOVIET ARMY TROOPS, ORGANIZATION AND EQUIPMENT.*

Figure 3

LOSS OF DETAIL OR TEXTURE

ESTIMATION BY APPEARANCE OF TREES

1,000 METERS	**TRUNK AND MAIN BRANCHES ARE VISIBLE. FOLIAGE APPEARS IN CLUSTER-LIKE SHAPE. DAYLIGHT MAY BE SEEN THROUGH FOLIAGE.**
2,000 METERS	**TRUNK IS VISIBLE; MAIN BRANCHES ARE DISTINGUISHABLE; FOLIAGE APPEARS AS A SMOOTH SURFACE. OUTLINE OF FOLIAGE OF SEPARATE TREES IS DISTINGUISHABLE.**
3,000 METERS	**LOWER HALF OF TRUNK IS VISIBLE; BRANCHES BLEND WITH FOLIAGE. FOLIAGE BLENDS WITH ADJOINING TREES.**
4,000 METERS	**TRUNK AND BRANCHES BLEND WITH FOLIAGE. FOLIAGE APPEARS AS A CONTINUOUS CLUSTER. MOTION CAUSED BY WIND CANNOT BE DETECTED.**
5,000 METERS AND BEYOND	**WHOLE AREA COVERED BY TREES APPEARS SMOOTH AND DARK.**

SOURCE: FM 6-30, *TACTICS, TECHNIQUES AND PROCEDURES FOR OBSERVED FIRES*

Figure 4

OTHER CONSIDERATIONS FOR DISTANCE ESTIMATION

OBJECTS APPEAR NEARER WHEN:

- **IN BRIGHT LIGHT**
- **IN CLEAR AIR AT HIGH ALTITUDE**
- **THE OBSERVER IS LOOKING DOWN FROM A HEIGHT**
- **THE OBSERVER IS LOOKING OVER A DEPRESSION, MOST OF WHICH IS HIDDEN**
- **THE OBSERVER IS LOOKING OVER WATER, SNOW OR A UNIFORM SURFACE**
- **THE BACKGROUND IS IN CONTRAST WITH THE COLOR OF THE OBJECT**

OBJECTS APPEAR MORE DISTANT WHEN:

- **IN POOR LIGHT OR IN FOG**
- **ONLY A SMALL PART OF THE OBJECTS CAN BE SEEN**
- **WHEN OBSERVING FROM A KNEELING OR SITTING POSITION ON HOT DAYS ESPECIALLY WHEN THE GROUND IS MOIST**

SOURCE: FM 6-30, *TACTICS, TECHNIQUES AND PROCEDURES FOR OBSERVED FIRES*

Figure 5

VEHICLE CHECKPOINTS

KNOWN DISTANCE TRAINING FROM OP 1 (EC19038646)

CHECKPOINT	GRID	DISTANCE	NEARBY FEATURE
1	EC195825	4,OOO meters	RGE 49, TURNOUT
2	EC195835	3,000 meters	RGE 55, BLDG F
3	EC190845	2,000 meters	FRONT SLOPE OF HILL
4	EC193855	1,000 meters	BUTTS RD/BROWN RD INTERSECTION

DISTANCE ESTIMATION PRACTICAL EXERCISE FROM OP 2 (EC19088650)

CHECKPOINT	GRID	DISTANCE	NEARBY FEATURE
5	EC212874	2,300 meters	HILLTOP
6	EC209879	2,250 meters	TANK DITCH
7	EC204875	1,550 meters	RGE 28 YELLOW/BLACK RAILS
8	EC198884	2,000 meters	ROAD ON HILLSIDE
9	EC193872	600 meters	SOUTH OF RUNNING TRACK
10	EC193887	2,200 meters	ROAD

Figure 6

BUILDING A FIELD-EXPEDIENT DRY-FIRE MINI-TANK/ BRADLEY FIGHTING VEHICLE (BFV) RANGE

by Major Paul M. Rivette, Chief, CTC Branch, CALL

Section 1: Introduction

Ask any tanker and he will tell you the same thing: He just cannot get enough time on the range or in the turret. Not only is it important to train detailed crew duties, but the training can prove to be an enjoyable experience. SSG Simpson and SSG Anderson, both master gunners with C/3-4 Cavalry, took the initiative to turn an unpleasant experience into a quality training event.

The setting was a permanent Checkpoint in the Zone of Separation between the Bosnian Serbs and Bosnian Muslims. This checkpoint was occupied around the clock by a tank platoon from C/3-4 Cavalry. This duty, while very important, left the soldiers with a lot of slack time when not on guard or pulling PMCS. SSGs Simpson and Anderson converted an open area into a mini-tank range. The range was built using only field-expedient materiels, the Troop carpenter's tool kit, and soldier ingenuity.

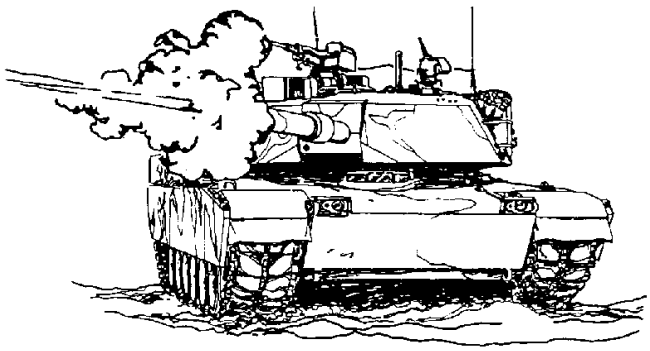
Below you will find simple instructions on how to build your own **dry-fire mini range.** Charlie Troop's Cavalrymen proved that this could be done under adverse field conditions, but the principles can also easily be applied to the back of a motor pool or a range parking lot.

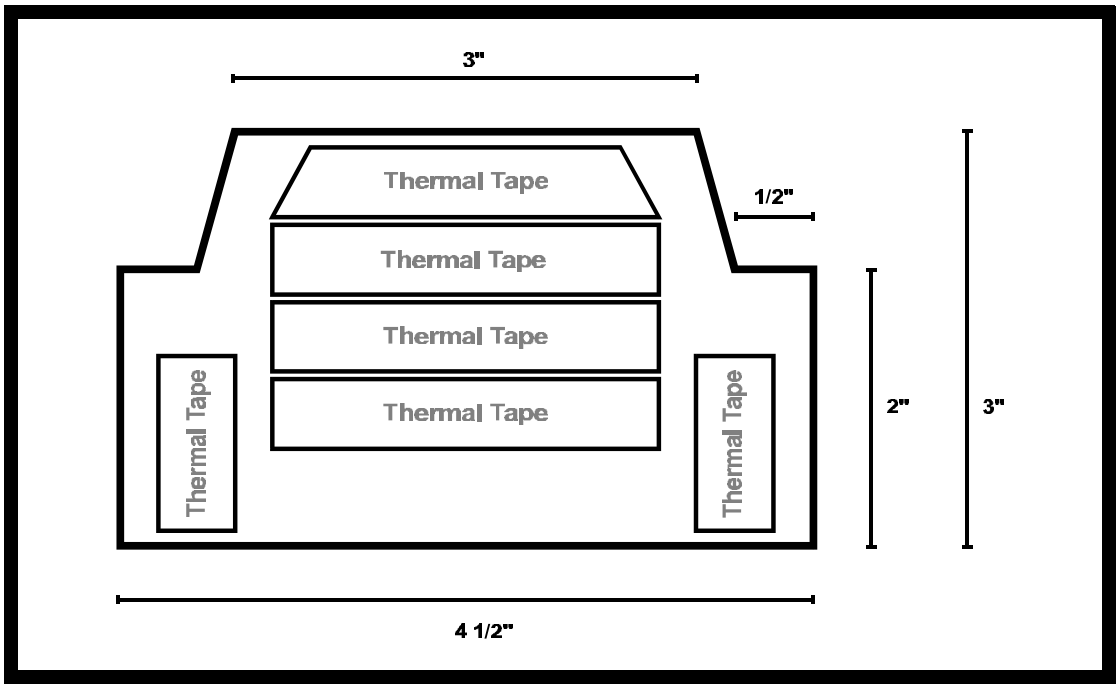
Section 2: The Targets

Materiels Required:

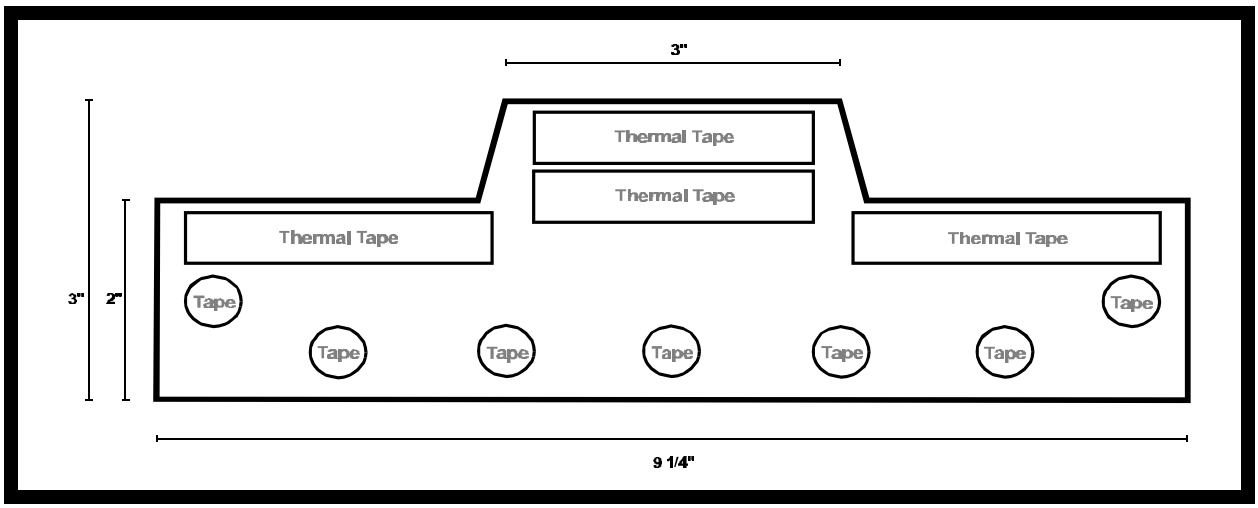
Plywood or MRE (Meal, Ready to Eat) boxes
Thermal tape

Charlie Troop initially set up the range with MRE cardboard targets as a “proof of principle.” Unfortunately, the cardboard was not very weather resistant. The troop then constructed new targets out of ½” plywood. The targets are very simple to make. On page 13 are diagrams for 1:30 scale T72 frontal and flank targets.





T-72 Frontal - approx 1:30 scale



T-72 Flank - approx 1:30 scale

A quick formula for determining the correct scale to use on your range is:

Maximum Combat Range (MCR)/**Real Estate Available** (REA) = **Scale Size** (SS) (round to the nearest whole number)

For example, if you had about 125 meters available to build your M1 range:
MCR/REA = SS
4000/125 = SS
4000/125 = 32 (use a 1:30-scale target)

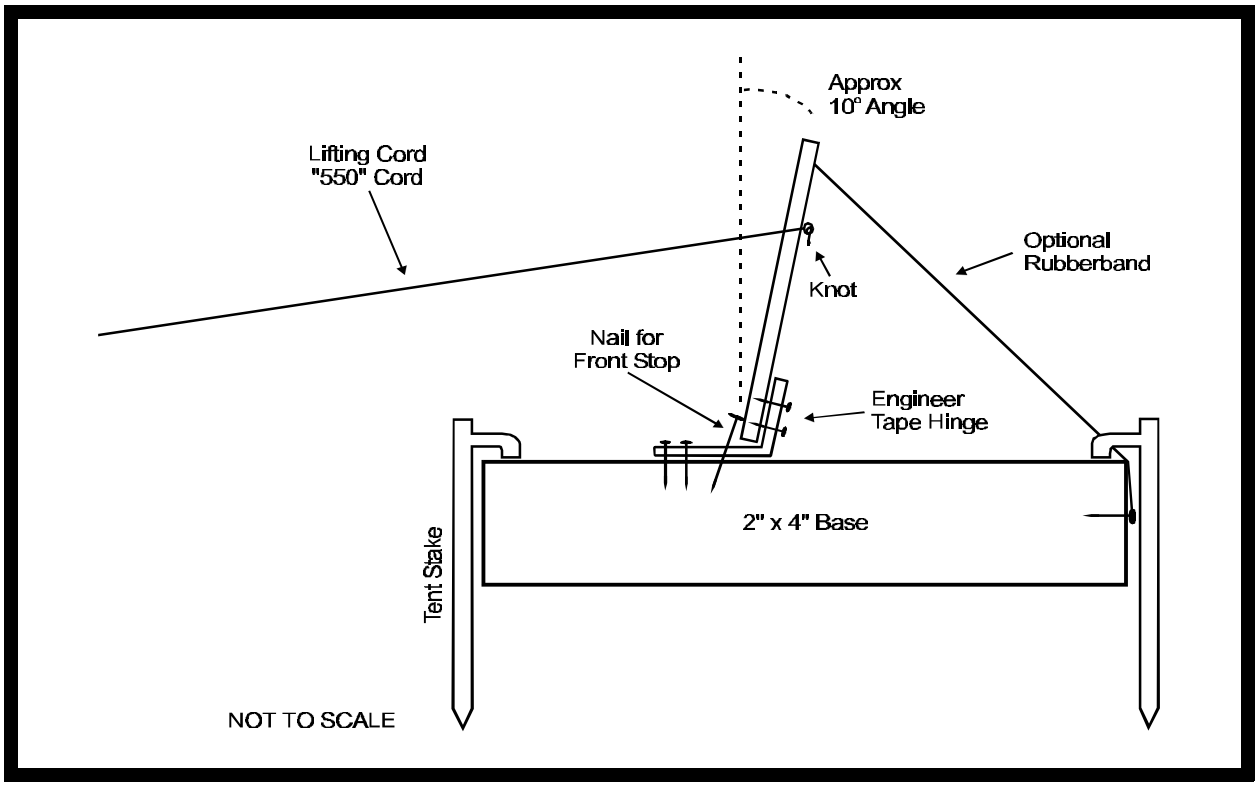
Detailed dimensions for the full range of targets, as well as more guidance on determining scale and target emplacement distance, is available in Chapter 2 of **FM 17-2-7, *Tank Gunnery.*** Best results are achieved with targets that are painted a dark color with thermal tape applied. It is suggested that crews use only the thermal sight. By using thermal tape, it makes for a more realistic target display.

Section 3: The Lifting Devices and Tower Controls

Materiels Required:

wood 2x4 base
hinge made of engineer tape (100 MPH for MRE target)
nail for front stop (at angle for thermal tape)
550-cord lifter
rubber band return (n/a for wood targets)
stakes to hold target
stakes to route 550 cord
sticks w/nametags at tower

The targets are fixed to a 2x4 base with either engineer tape or 100 MPH tape (for cardboard targets). The base is secured by two large tent pegs. The target, when erected, must be at a slight angle to obtain the best results from the thermal tape. A nail hammered in at an angle with about 2" exposed makes a very effective front stop that will keep your target at the correct angle. The lifting device is a length of 550 cord passed through a hole in the target and directed by tent pegs to the “tower” or control area. The control end of the string is tied to a small stick (popsicle sticks work well) marked with the target number. The target is lifted by pulling on the appropriate strings. A plywood target, stopped at a slight angle, will “fall” when the lifting string is released. A cardboard target will need a rubber band attached to the back to help achieve the desired “kill” effect.



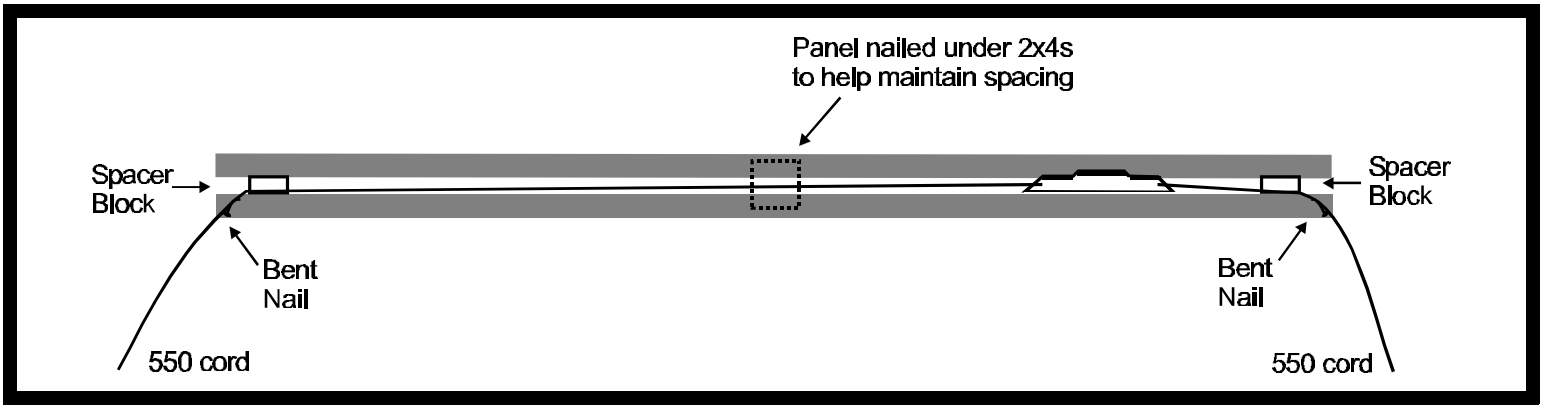
Lifting device and target base

Section 4: The Mover

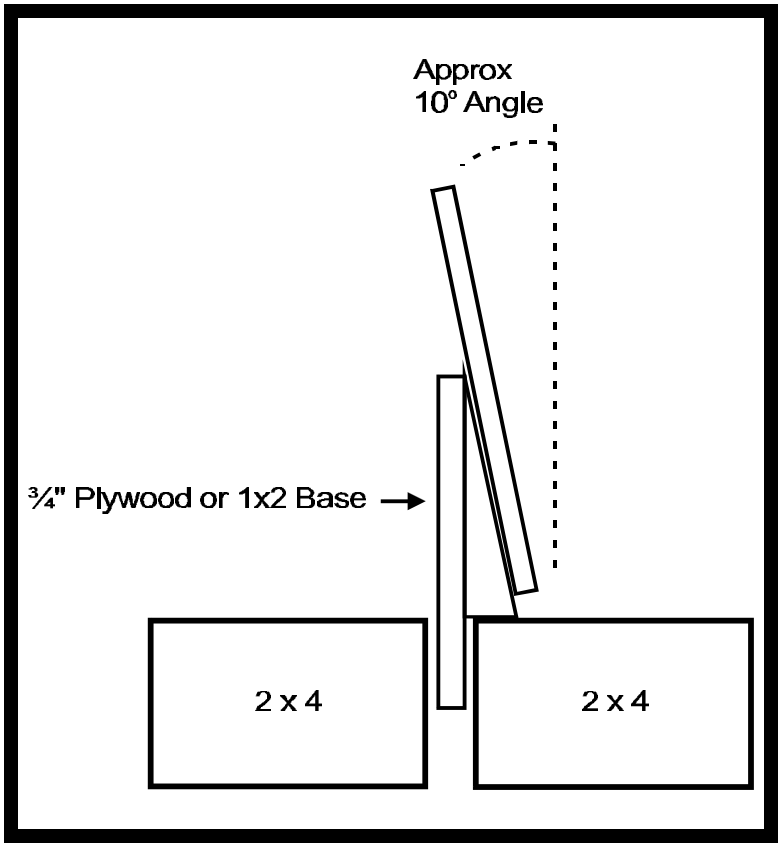
Materiels Required:

2x4 runners
something to obscure at both ends
550-cord loop to tower
bracing to have flat runners, but angled target
nail loop at ends

Making a moving target is more complicated and will require a lot of trial and error before your target works smoothly. The basic principal is to place the target between two long 2x4 guides. A length of 550 cord is attached to either side and routed through a nail loop at either end of the 2x4 runners. The target is again fixed at a slight angle to make the thermal tape more effective. Moving the target is done by a steady pull on one end of the string. Since the target cannot be made to "rise" or "fall," both ends of the runner area must be obscured from view of the firing vehicle. Target effect is achieved by stopping the movement of the target.



Moving target - overhead view



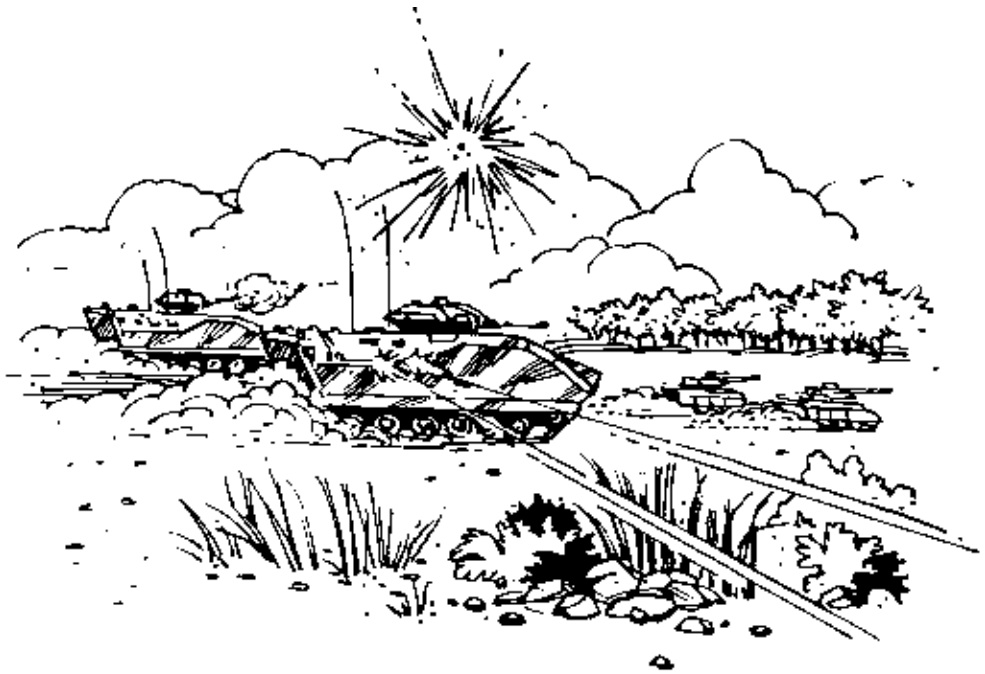
Moving target - side view

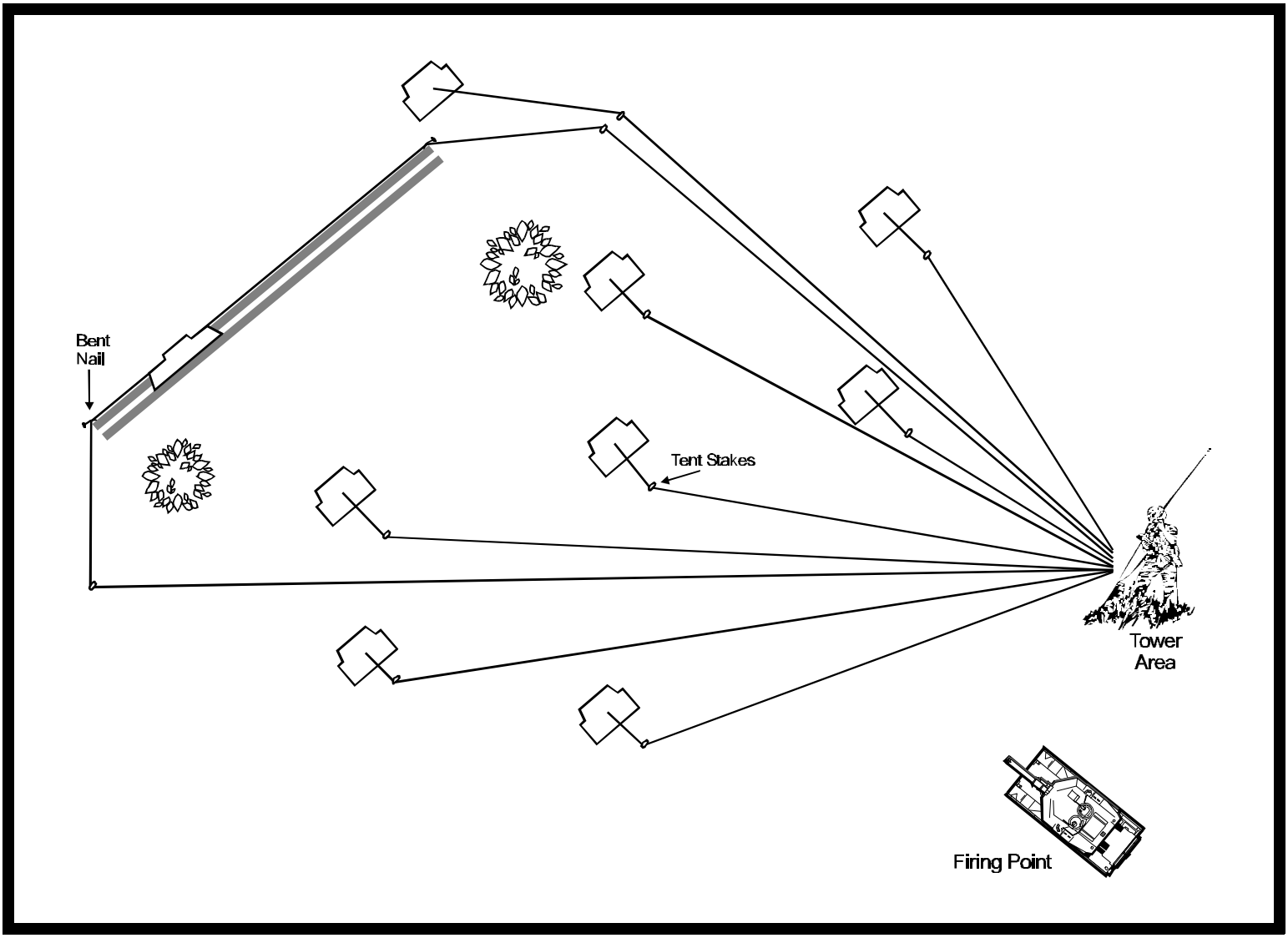
Section 5: The Range Layout

The range at "Checkpoint Charlie" was approximately 40 meters from the firing position to the closest target, with about 100 meters to the farthest engagement. The range fan was about two times the gunner's field of view. The target area included a mover and eight stationary targets. These factors are all dependent on the terrain you have available and the degree of difficulty you want on your range. FM 17-12-7 has more guidance on range design and target arrays; however, in field-expedient situations, simply doing what you believe is challenging will provide good training.

The most difficult item to set up on the range is routing the lifting cords to the tower in such a manner that they will not bind. For this reason you will want to place the tower close to the "front" of the range so that the lifting cords have as few turns as possible. The standard "jump" radio setup is used to allow the tower to issue situation reports to the firing crew and monitor the firing commands. The tower NCOIC will have to listen to the fire commands and decide if he should allow a "hit" and drop the target or make the crew re-engage. If jump radios are not available, a TCE (Tank Crew Evaluator) can be positioned on top of the firing vehicle turret. The TCE can communicate with the "tower" by using hand signals.

Boresighting panels and a Snake Board can also be easily manufactured in the field and included on or near your range. Complete gunner skills exams and other related training can also be conducted depending on your level of crew training and time available.





Sample Range Layout

Section 6: Summary

It does not matter if you are in the Bosnian ZOS or a CONUS motor pool, one principle rings clear: innovative soldiers can conduct quality training if their leaders support their efforts.✪

Good Luck, and Good Shooting!

Military Speechwriting and Public Speaking

By Captain James E. Hutton, Military Analyst, CALL

> **"…tell the story of America's Army. It's a good news story. It's happening every day. I often say that soldiers are our credentials….We must talk an awful lot about them to the American people. We must talk an awful lot about them to Congress….We have a great military....It's the world's best military. [1]"**
>
> **---GENERAL Dennis J. Reimer**

Introduction

Communicating the Army's story to the public takes many forms. In addition to the use of the various media outlets, public speaking engagements provide uninterrupted and unfiltered communications with public groups both internal and external. Further, speaking to the public provides commanders with an instant feel of public perceptions in a way that media product analysis cannot.

This article provides the tools for writing speeches and public speaking. The first section focuses on preparation of a speech including visit(s) to the commander, script preparation, time management and rehearsals, and staffing procedures. In the second section, the emphasis shifts to delivering the speech. The discussion includes audience evaluation, concentration on key messages, uniform and appearance, tips for speakers and after-action-reviews. Public speaking is a valuable community relations tool in relating the Army's story to groups small and large both in the neighboring community or to soldiers. We should take each opportunity seriously and ensure our products deliver the commander's intended message.

Speechwriting

Speechwriting is the first and most important step to a public speaking engagement. This process often involves the commander, the speaker (often the commander), the speechwriter or writing team, the community relations officer (or media relations officer) and the staff. The public affairs officer (PAO) is responsible for coordinating the elements for production of the speech.

Early in the process, the speechwriter and PAO will visit the commander for guidance on topic and content. The PAO must be able to provide the commander with an analysis of the engagement to include: date of event, time allotted, a list of other possible speakers, and audience type and size (i.e., professional, military-related, civic, environmental, etc.). The guidance at this point should be general, with the commander providing a topic and key themes to highlight.

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[1] Dennis J. Reimer, General, U.S. Army, text of speech to the National Guard Association, Washington, D.C., September 2, 1995.

Following the commander's guidance, the speechwriter/team will begin script preparation. It is important to write the script for the spoken word. The emphasis is on conversational English and should include the following structural elements[2]:

1. **Attention Step.** The opening statement should capture the attention of the audience.
2. **Topic/Objective Statement.** Describe in clear terms what you will be talking about.
3. **Motivation.** Tell the audience why they should listen to you.
4. **Transition.** Begin the transition to your first main point.
5. **First Main Point.** This is the beginning of the main body of your speech. It is the first of what should be three-four main points.
6. **Internal Summary.** Succinctly summarize the first main point.
7. **Transition.** Transition to your next main point. Attempt to tie your first main point to the second.
8. **Second Main Point.**
9. **Internal Summary.**
10. **Transition.**
11. **Third Main Point.**
12. **Internal Summary.**
13. **Transition.**
14. **Recap Main Points.** Highlight the main points made.
15. **Re-motivate.** Again remind the audience why your points are important.
16. **Forceful Conclusion.** Concisely and strongly make the final thought you want to leave with the audience.
17. **Close.**

After completion of the first draft of the speech, refinement is necessary. Have a speaker not related to the project read the speech aloud to the speechwriter or speechwriting team and the PAO. The team and the PAO will listen for clarity, conversational language, jargon, and determine if time constraints are met. It is best to have more than one reader for the speech due to variations in reading rates.

The writer(s) should then prepare an advanced draft that incorporates the changes from the reading. For script production, the team can use the following tips as a guide[3]:

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[2] **The elements described here were derived from a sample community relations speech outline provided for student use at the Defense Information School, Fort Meade, MD - Public Affairs Officer Course, 1995.**

[3] **The tips listed here, in part, come from an undated and unattributed Army pamphlet, *So You're Meeting the Media,* pg. 13.**

➷Triple-space the script. Some speakers prefer the script to be in all capital letters. Often, however, all capital letters on a page can run together. The speaker's preference is the guide.

➷Underline or highlight key points.

➷Consider leaving a large margin on the left side of the page. Speakers sometimes make last-minute changes and can use the margin for handwritten notes. The margin will also be easier to follow. Some speakers have difficulty following text across an entire page. Again the speaker's preference is key.

➷Consider leaving a large margin at the bottom of a page. This will prevent the speaker's eyes from dropping low.

➷Do not split sentences between pages. If necessary, leave extra margin to push the beginning of a new sentence onto the next page.

➷Provide text that is in plain English. (Even if the audience is military, the levels of understanding of jargon, in-office acronyms, and other localisms vary widely.)

The prepared text should then be staffed as necessary to ensure the correctness of information. Advise the staff elements reviewing the document that the role of the staff in this process is to evaluate the accuracy of the information, not to rewrite text or provide clever phrases. A speech that is rewritten by too many people can become diluted and disjointed.

As a courtesy, provide the next higher level command with a copy of the final draft. In the case of speeches to be delivered by lieutenant generals and above, it is normally a requirement to have a higher level review. Review major command (MACOM) and Department of the Army (DA) guidance.

Deliver the final text to the speaker in a timely manner, providing adequate time for rehearsal and revision.

Public Speaking

Speaking as a representative of the Army is a valuable way to reach key publics. With speech in hand, the speaker still must complete the preparation process. The speaker should review the text and rehearse by reading aloud to the speechwriters and the PAO. By making minor text adjustments, the speaker can fit the text to his "voice."

Prior to the speech, the speaker must check his uniform and personal appearance. Personal appearance is important --- it makes the first impression. Usually a Class "A" uniform is appropriate for speaking engagements.

The speaker must clearly understand the main points and, as is frequently the case, must be prepared to answer questions following the speech. The speaker should mingle as must as possible before the speech with the audience to get a "feel" for the mood and level of understanding of the audience.

Speakers can use the following tips during a speech to ensure the maximum effectiveness[4]:

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[4] ***So You're Meeting the Media,*** **pg. 11. (Much of this list is paraphrased. Some items have been added, and other deleted from the list as it originally appeared.)**

- **Care about your speech. If you do not care, certainly the audience will not.**
- **Concentrate exclusively on your points and the audience.**
- **Maintain your bearing and always appear in control. ("Never let 'em see you sweat.")**
- **Gain as much eye contact as possible, especially when making your main points.**
- **Pause when necessary. An occasional pause allows the audience to digest your key points.**
- **Always keep in mind that you know more about your subject than anyone in the room. You are the pro!**

Following a speech, an after-action review will greatly assist the speaker and speechwriter(s). The PAO should informally talk to audience members and ask them if they fully understood the talk. He can assess how well they understood the messages by talking about the main points and listening closely to audience member responses. Often following a speech, a period is set aside for questions and answers. The speaker and PAO can quickly evaluate the effectiveness of the speech by listening to the types of questions put forth.

The PAO should also assist the speaker by pointing out how well he delivered the speech. Use the following tools to examine the speaker's delivery:

✍ **Did the speaker use a staccato delivery style? If so, assist the speaker for future events by encouraging pauses. If possible, videotape the speech --- speakers often can see for themselves areas for improvement.**

✍ **Did the speaker speak clearly? Usually, slowing the speech can correct this problem.**

✍ **Did he maintain eye contact at key junctures? Practice eye contact when making the main points.**

✍ **Depending on the experience level of the speaker, this list can be expanded. Just as with any other military operation or function, we always want to improve the next time we are faced with a similar situation.**

Conclusion

Public speaking allows our leaders and communities to come together in ways that are not possible through the vast array of media relations and written statements. Commanders and PAOs can use speaking engagements to forward key information points to public groups without abbreviation or filtering. PAOs and speechwriters must prepare quality products by gaining command guidance and producing a well thoughtout and properly staffed script. Speakers can deliver the product by involving themselves in the planning process, ensuring a good personal appearance, rehearsing, and making contact with the audience. Keeping the American public informed about the activities of *their* great Army will maintain confidence in our force and lead to greater readiness in the future!✪

⋀⋀oving the ⋀⋀ountain

Achieving Successful Hellfire Engagements in the Rugged Terrain of Korea

by CPT Paul A. Eno III, Operations Officer,
Longbow Helicopter Fielding Team, 21st Cav Brigade, Fort Hood, TX

Stand-off distance, clearly one of the most advantageous characteristics of the tank-killing Hellfire missile and Apache helicopter, is severely reduced in regions of the world where mountainous terrain and low lying enemy avenues of approach dominate the landscape. Since the deployment of three Apache Attack Helicopter Battalions to the Republic of Korea, this terrain issue has forced planners to rethink the manner in which they fight the AH-64. What appears to work on a map or sandtable often times does not translate in the aircraft.

This article covers an overview of the terrain in Korea, some of the pitfalls encountered when planning attack helicopter missions, modern tools available to planners, and a method of fire delivery which supports the Hellfire's capabilities in Korea and maximizes its effectiveness.

⋀⋀ The Terrain ⋀⋀

On your first flight in Korea, you will immediately know why a long range Hellfire shot can be a problem. The Korean people appear to have been punished by mountains, valleys, ridges, cliffs, and highlands which are all detrimental to any form of organized infrastructure growth. As a result, road networks are scattered randomly amongst the low lands, tunneled through impassable high grounds, and cut right into the side of steep mountains for miles. Like a snake moving through high grass, Korean roads bend and twist around obstacles without any sort of pattern or order, constantly seeking any flat, low-lying stretches that can support fluid movement.

In addition to these abundant highlands, the low-lying areas also promote their own formidable problems. Centuries of agricultural expansion have captured nearly all of the exposed, flat, (useful) land for farming. The large Korean population maintains thousands of individual rice fields, fully irrigated and saturated with extremely thick, wet, and sticky mud. Peppers and other vegetables are also grown across the countryside, but rice is by far the most common crop and dominates the landscape.

Other factors influencing the terrain are the large population and congested urban areas. Except for the small, scattered, farm communities, the majority of the Korean population lives in extremely concentrated urban areas. Large buildings tower over downtown streets; streets that are sometimes too narrow to support a HMMWV. Day-long traffic jams are normal occurrences throughout the cities -- and no road is too short to put yet another traffic light on it. Urban infrastructure is very cramped, overpopulated, haphazard, and more disorganized than the roads and trails formed throughout the mountains and farmlands.

As a result of these terrain characteristics, vehicle movement throughout Korea is extremely difficult and limited. Vehicles attempting to advance rapidly cross-country must completely avoid urban areas and are forced to utilize the limited road networks. Farm trails (in between rice paddies) are sometimes usable, but crossing directly through an irrigated rice paddy in the summer is impossible. Column formations on roads are the only choice for armored forces.

/\/\ Planning Considerations /\/\

The foremost problem that operational planners face is proper selection of the "Attack By Fire" positions (ABF). These "ABFs" (formally known as "battle positions" or "BPs") are defined by the upcoming FM 1-112 as a position where "fires [are] employed to destroy the enemy from a distance, normally used when the mission does not dictate or support occupation of the objective." A suitable ABF for an Apache supports ample line of sight to the target, adequate lateral tracking distance, cover and concealment, and as much standoff range as possible.

In the rough Korean terrain, Apaches are forced to attack the enemy while he moves along narrow, winding roads surrounded by extremely steep highground. Locating an ABF that allows the pilots to see the enemy, engage him from a distance, and still conceal their aircraft is extremely difficult.

In an effort to support successful target acquisition and tracking -- to *guarantee* that the aircraft will see the targets -- the operational planner will sometimes decide on an ABF position that locates the AH-64 high on a ridgeline. Engaging downward toward a low-lying road may allow him to see the target, but this also produces a dangerous and tactically unsound silhouette. This type of Hellfire employment would be too costly given the ample North Korean air defense capabilities.

In an effort to avoid this problem, the planner may attempt to position the aircraft lower in the mountains, possibly in a draw or saddle large enough for an aircraft. While the pilot may have substantial terrain coverage and concealment on either side, and an extensive backdrop to mask his position -- locating and tracking targets will be extremely difficult. Too often the CPG (copilot-gunner) will not be able to even find the narrow roadway that the enemy is supposed to be moving on. Even the slightest rises in the terrain will completely mask targets and roads. If he does locate the enemy, tracking will be somewhat inhibited by his reduced field of view to the left and right.

A final significant pitfall that planners face is the extreme urban and natural congestion surrounding most all Korean roadways. The small hills that the roads were built around and the buildings that stand along the road sides make target tracking very difficult. CPGs face losing several missiles while lasing due to obstructions encountered in the crucial final seconds.

/\/\ Planning Tools /\/\

Probably the most useful and accurate planning tool for selection of suitable ABF positions is Terra Base. This CD-ROM-based program is available from the Defense Mapping Agency and covers the entire Korean peninsula. In general, Terra Base is a three dimensional map of the entire peninsula depicted solely by contour lines. Although the screen is merely black and white (and only contour lines are drawn), the planner gets a very vivid picture of the terrain with which he is dealing.

By inputting the eight-digit grid representing the expected enemy position, and also the potential friendly ABF positions, the planner can navigate his way around the location on the computer and see the actual terrain relief. Terra Base will let you look between the two inputted grids and see the visual perspective from either the enemy side or the friendly side. The level of magnification is fully adjustable, and, with a few manipulations of grid selection and zoom level, the planner can determine whether or not his selected ABF will mask his aircraft and still allow intervisibility with the targets.

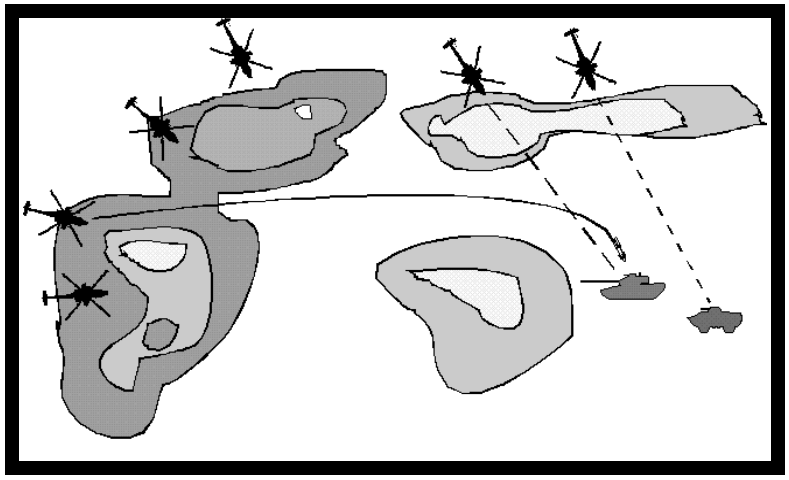
After aircraft positions are verified with the computer, the program will print out the visual picture on a wide-carriage dot matrix printer -- useful to bring the visual picture from the S-3 shop directly to the pilots and let them see their ABF before they even get there.

/\/\ Successful Hellfire Employment /\/\

By emphasizing the use of *remote* Hellfire engagements in the Korean terrain, commanders can still maintain surprise, retain standoff distance, and protect the force by utilizing fewer helicopters forward in the face of the enemy.

The Cobra served as the primary attack helicopter over Korea for several years before the Apaches moved into the theater. With a maximum TOW range of 3,750 meters, Cobra pilots were forced to fight close to the engagement area. This constraint allowed them to avoid some of the planning pitfalls mentioned earlier in this article, because invoking long-range fires (past four kilometers) simply did not exist with the Cobra.

Putting Apaches within four kilometers of the engagement area (like a Cobra) is hard to justify. By doing so, a commander would give up the increased survivability and surprise that the Hellfire provides from as far out as six kilometers at night. Aircraft would at times be within the main gun range of Soviet tanks (the leading kill factor at the National Training Center), and as the attack progressed, aircraft positions would be easy to locate due to the bright flash created by the missiles when fired.



The remote Hellfire engagement avoids most of these problems. This is accomplished by placing two (or possibly more) aircraft forward with eyes on the enemy. The rest of the company positions their aircraft orientated on the enemy location, but completely masked behind terrain, perhaps in a valley one or two terrain features back. The aircraft up front (the "lasers") each has designated "shooter" aircraft who will provide remote fired missiles for them on call.

As the engagement begins, the enemy does not have any idea that he is being watched. Two Apaches search out the enemy and divide him up into sectors of fire. After a short call for fire to the shooters, the first missile launches. When it arrives, the AH-64 commander has total surprise. The missile destroys the lead tank and the enemy has no idea what hit him, where it came from, or where he should run to. The hits continue to rain in on the enemy column in rapid succession. During this entire time, not a single missile flash can be seen as the shooters are positioned down low behind a ridge, shooting missiles up and over the terrain. In about eight to ten minutes, the column is stopped completely and rendered combat ineffective.

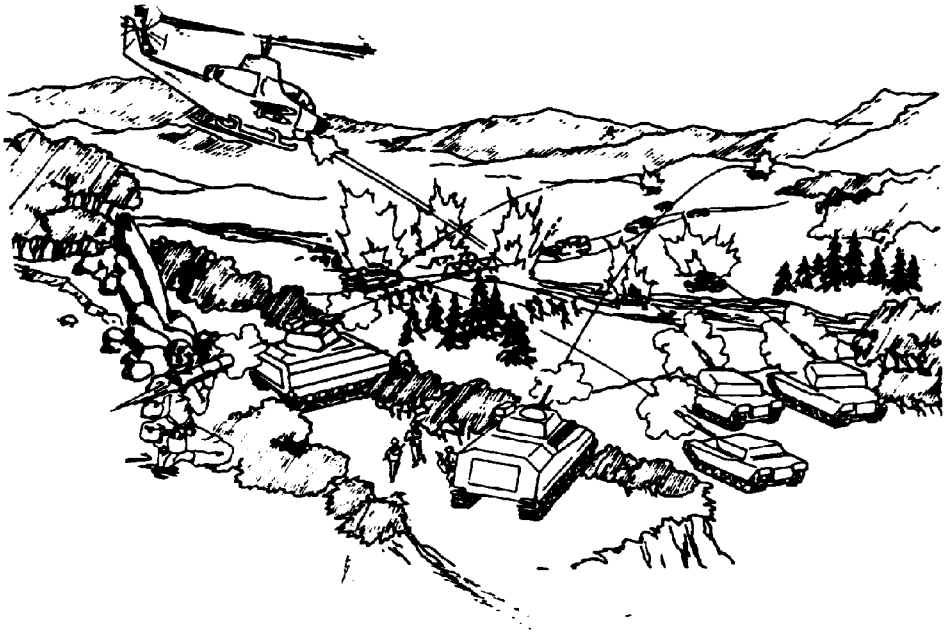
In using the Apache in this fashion, the commander protects his force by positioning only the lasing aircraft forward. Since the shots cannot be seen until impact, the position of the lasing aircraft will not be immediately revealed. Lasing aircraft therefore have increased flexibility to move around in their firing positions. They can ensure that they have good intervisibility with the target area, and adequate cover and concealment.

Since they will not be firing their own missiles initially, the lasing aircraft have more flexibility in choosing the positions from which they lase. They can lase *up* a valley, rather than strictly viewing it from the side. In the narrow valleys of Korea, this method can be highly effective.

Use of the remote engagement does have its disadvantages as well. The possibility of losing a missile is increased by the longer time of flight of the missile and the necessary verbal communication between lasing and shooting aircraft. A missile fired from six kilometers out requires over 20 seconds to fly its full trajectory, and again we run into the problem of a target moving behind clutter in the EA and another missile lost. There are also several safety factors involved in utilizing a remote shot that must be considered. The 20-degree safety fan for positioning the shooting aircraft is an example.

/\/\ In Conclusion /\/\

There is nothing a commander can do to change the terrain over which he fights. He cannot move the mountains that block his missiles and protect the enemy from attack. He can, however, try to change his planning and employment techniques to work with that terrain. The Korean landscape is by far the most rugged that Apaches have ever flown in. Many AH-64 pilots call it "The last great Apache adventure." Battles will be won there by the commanders who are willing to break from convention, try new ideas, and utilize the latest technology to their best advantage.✪



INTELLIGENCE: Not Just for the S2 Anymore!

"Battles for Cortina-Training Vignettes from JRTC"

by MAJ Douglas L. Flohr and CPT Joseph S. McLamb, JRTC Battalion Task Force O/Cs

When the Bradley section surprised and killed a Cortina Liberation Front (CLF) mortar section at mid-morning, the satisfaction of both the Bradley crewmen and the battalion staff was not lessened by the fact that the contact was more a matter of luck than of design. Considering the trouble that the mortar tube had caused over the past several days, its elimination was a blessing regardless of how it was attained.

But as the battalion staff spent a moment of celebration in the TOC, several slips of paper rested unnoticed and undisturbed on the S2's desk that might have moved the celebration back several hours. The intelligence reports recorded two Q36 acquisitions earlier in the day - at 0105 and 0705 - both within 300 meters of where the Bradley section would find an enemy mortar crew in a poorly concealed position at 1100. The brigade had fired counter-battery fires in response to each of the acquisitions, but the enemy mortar had not only survived but also decided to remain in the same general location. The rationale for the enemy's decision to stay in place may have been the difficulty in moving the mortar ammunition cached nearby, or may reflect the enemy's belief that U.S. forces rely on counter-battery fires as the sole means of silencing mortars.

When the reports of the Q36 acquisitions and subsequent counter-battery fires entered the TOC, the FSO passed them to the S2 cell. Although an intelligence analyst included the events in the next intelligence update, no one notified the S3 section of the activities in the battalion zone. No maneuver forces reacted to the enemy mortar fires, with the unfortunate exception of the rifle company that was on the receiving end of the mortar rounds. Despite the multiple indicators of the mortar location, the battalion's reaction was limited to the dispatch of casualty evacuation assets to assist the company that received the mortar fire.

The good fortune that eventually resulted in a Bradley section destroying the mortar is a rare commodity on the battlefield. A more promising technique is to turn the intelligence indicators that arrive on the S2's desk into coordinated actions involving indirect fires, maneuver forces, and any other available resources. Had the battalion staff reacted to the mortar indicators by developing a coordinated attack to destroy the mortar, a number of friendly casualties could have been avoided. Intelligence indicators provide small advantage when they gather dust in the S2's in-box.✪

X-RAY OPERATIONS IN A FORWARD SUPPORT MEDICAL COMPANY

by SPC David Maurer and CPT William Carter, CTC Analyst, CALL

The 1st battalion's fire support officer (FSO) was in obvious pain as the orthopedic surgeon from the forward surgical team (FST) examined his ankle. The FSO said to the surgeon, "Hey doc, at the battalion aid station they said it might not be broke, what do you say?" "I don't think it's broke, but I can't tell without a good X-ray," the surgeon replied. "My battalion is going on the attack tonight, and I got to be back tonight," the FSO exclaimed. "If I send you back to the unit and the ankle is broken, you could make it a hell of a lot worse then it is now. We're going to evacuate you to the CHS (Combat Support Hospital). They can take the X-rays there," the surgeon told the FSO. "But the medics at the aid station said you guys could take the X-ray, and I would be back to duty in no time," said the FSO who started to sound concern. "Can't do it. The machine hasn't worked right since we got here. The X-ray tech is dead, and there is no one here who really knows how to use the thing anyway," the surgeon told the FSO. "Great, #@*$!$% great," were the last words heard from the FSO as he left the treatment tent for an awaiting ambulance.

Later that night, the 1st battalion conducted their attack. A newly assigned lieutenant FSO from A-Company replaced the battalion FSO when he was evacuated through the medical channels. He struggled to develop the fire support plan and received little, if any, assistance from the battalion staff. The new FSO underestimated the risk estimate distance. This resulted in two squads getting caught in the artillery fires near the objective causing the lead platoon with the engineer sappers to become combat ineffective. The initiation of fires occurred too early and fell short. The early artillery fires warned the enemy of the on-coming attack. The artillery barrage was useless. There was no battle damage to any of the obstacles or the objective. The objective was finally taken late that morning with a larger-than-expected number of casualties due to, according to the O/Cs, poor development and execution of the fire support plan. The real battalion FSO was released from the CSH with a sprained ankle that night. He returned to duty after the fight was over.

DISCUSSION: The motto of the Army Medical Department is to **"Conserve the Fighting Strength."** The goal of the medic on the ground is first and foremost to save lives, but also to return experienced warfighters to the battle. The above scenario may overstate the burden of a failed attack solely on an inoperable piece of machinery, but there are numerous factors that contributed to the success or failure of an attack. Poor medical operations and care of equipment should not aggravate an already chaotic situation on the battlefield. The X-ray equipment does provide life-saving and timely diagnosis of an injury or wound. The X-ray machine in the forward support medical company (FSMC) is the closest machine to the front. Therefore, it is a critical factor in returning soldiers to duty quickly. Most medical personnel as well as many others have seen the X-ray from the Vietnam war of the soldier with the grenade imbedded in his chest. The surgeons were able to remove the grenade quickly and safely due in part to good diagnostic X-rays. The ability to take good X-ray film is an important tool to save lives and return the warfighters quickly to the battle.

TECHNIQUES and PROCEDURES: The techniques and procedures listed below should improve X-ray operations in any FSMC, Main Support Medical Company (MSMC), and an Area Support Medical Company (ASMC).

1. Conduct Preventive Maintenance Checks and Services on the X-ray machine and processors at least once a quarter at home station. The X-ray technician must report deficiencies to the unit's bio-maintenance technician or the division medical supply officer (DMSO). The X-ray technician must perform a detail pre-combat inspection prior to deployment. The X-ray technician should ensure the machine is properly calibrated, ensure all components found on the unit assemblage listing (UAL) are present, and check chemicals and films for expiration dates.

2. The X-ray technician must know preventive maintenance procedures and trouble-shooting techniques on how to use the equipment in an austere environment. Training techniques include:

a. The X-ray technician can sharpen his skills working at the local garrison medical treatment facility (MTF), hospital or troop medical clinic, when the unit's training schedule and operational tempo (OPTEMPO) allow.

b. Have the technician set up the equipment near the MTF and have all minor X-ray procedures on military personnel done in the X-ray tent. (*This type of on-site hands-on training will indirectly facilitate additional collective training tasks for the treatment platoon to accomplish this task*.)

c. During scheduled maintenance on the X-ray machine and processor, the X-ray technician should work with the bio-maintenance technician. The X-ray tech should not just accompany the equipment to the shop. This will increase his knowledge of the equipment.

3. The unit must have personnel who are cross-trained on the X-ray equipment to ensure continuity of medical support. Continuity is one of the six principles of Combat Health Support. Ideally, cross-training occurs between the unit's laboratory technician (MOS 91K10) and the X-ray technician.

4. When deploying to the field, the quartering party of the brigade support area (BSA) or the medical company must find a site to establish the X-ray tent that is hard, flat and will not flood during a storm. Additional consideration in selecting a site for the X-ray tent includes the placement of the generator. The generator must be in close proximity to the tent to maximize the voltage received through electric cables. **(*Additionally, the unit should connect the dental compressor directly to the convenience outlet. This circuit is independent from the main source and will allow a more consistent flow of power to the X-ray machine.*) FM 8-10-1, *Medical Company,*** paragraphs 3-3 and 3-4 and ***Handbook for Leaders, Doctrine Review Team,*** December 1996, from the Army Medical Department Center and School, contains more information concerning site selection and unit layout.

5. The X-ray technician should ensure the film processor, ***(Curix 60 Processor, NSN 6525-01-345-6089),*** is level during the setup to get good quality X-ray films. The level found inside the unit's carpentry sets will help in determining if the processor is level. If a level is not available, there are other methods to check the processor to ensure it is level. Some methods include:

a. Place the processor on top of its storage box, secure and completely screw all of the leveling legs until they can go no farther. Then remove the covers from the three processing tanks and fill with the appropriate chemicals. By observing the chemicals in the tank, one can determine the high and low points of the processor. The processor can be level within plus or minus 3/8 of an inch. Always elevate the lowest corner first. Make major adjustments to the processor by placing a wooden tent stake under the storage box skids. Make minor adjustments using the leveling legs.

b. Fill four used chemical mixing bottles half-way with water. Place one bottle on each corner of the processor. By taking a measurement from the bottom up on each corner, one can determine the lowest and highest corner of the processor. Using a ruler to take the measurement is fine, but merely making a mark on a tongue depressor will help determine the required adjustments to the leveling legs.

6. If possible, the unit should sign for or order the Kodak cassettes used in most garrison MTFs. On average, using the Kodak cassettes and film results in a superior radiograph at a reduced techniques than the X-ray cassettes authorized in the Medical Equipment Set (MES), field X-ray.

7. Proper storage and management of the processing chemicals and film will increase the quality of X-ray films. Old chemicals will result in light X-ray films.

8. Processor chemicals used for over two days will lose their potency. This will result in under-developed film. Cleaning the processor and changing the chemical every third day will prevent crystallization of the chemicals in the processor and will ensure a higher quality of developed film.

9. Do not mix developer and fixer together. Mixing of the developer and the fixer chemicals will produce a hazardous material. Treatment and disposal of the material must be in accordance to laws and regulations from national and local agencies. Additional information concerning hazardous materiel is in Annex G of **FM 8-10-1, *Medical Company.***

10. The unit must practice sound safety precautions for operating X-ray equipment. The unit must block and, if the tactical situation allows, mark radiation hazard areas adjacent to the X-ray tent. The technical manual of the machine lists the appropriate safe distance, but a safe planning factor is to block an area 50 feet in a semi-circle in front of the X-ray machine. If the tactical situation and mission allow, the X-ray technician can sound a warning to let everyone in the area know the X-ray tech is about to take an X-ray.

11. The X-ray technician must have a dosimetry badge plus an account to get the badge read. A badge can be obtained through the post's radiation safety officer (RSO). The RSO will work at the hospital or the post's preventive medicine section. If no RSO is available, the company can establish an account with the Ionizing Radiation Dosimetry Center at Redstone Arsenal, AL. The address is Ionizing Radiation Dosimetry Center, U.S. Army TMDE Activity, ATTN: AMSAM-TMD-SR-D, Redstone Arsenal, AL 35898-5400. The number for the customer support clerk is 205-876-76345 or DSN: 746-7634.

12. The medical company should establish an annex in the company standing operating procedure (SOP) or, preferably, the treatment platoon's SOP. Topics covered in this annex should include: policies and procedures for operating X-ray equipment; radiation safety; radiation protection; equipment records; radiographic film storage and disposition; and maintenance procedures.✪

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